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ABSTRACT

If a person has an extreme score on a personality-trait measure, that trait should play a role in dictating which aspects of the environment are important to the individual. Subjects were asked to rate their dyadic communication with each of eight significant other people on a number of bipolar adjective scales. A multidimensional scaling analysis was performed to determine the underlying dimensional structure, as well as the importance of each dimension for each subject. The subjects' dimension weights were then correlated with various personality scores as measured by a number of standard tests. The results suggested that personality does have a small but significant influence on concepts of interpersonal communication. (Author/AA)

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INTRODUCTION

Recently personality has been characterized less as the study of the traits people possess and more as the study of the beliefs people hold (Mischel, 1968; 1974; Fiske, Note 1; Golding, Note 2). The notion is that the concepts we use to characterize events should be a clue to what we are like. Kelly's (Kelly, 1955) Role Construct Repertory test was designed to assess personality on the basis of the concepts people use to classify significant other people. In that test people are asked to name the concepts which characterize the way in which people (mother, father, etc.) are similar to one another and different from others. Thus, we might use the concept "likeable" in classifying our brother and father as similar; and the concept "dislikeable" in classifying our mother and sister as similar and different from our father and brother. Kelly's theory of personality was that each person has a unique set of concepts through

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which the world is evaluated. "Man looks at his world through transparent patterns or templates which he creates and then attempts to fit over the realities of which the world is composed." (p. 8)

If, in fact, the concepts we use to interpret our world are to play a role in personality theory, then it must be demonstrated that beliefs about the environment are related to important aspects of personality. Since Kelly felt that each person's constructs were unique, he had no way to relate systematically the concepts people use to the ways in which they behave. Although a few studies suggest the provocative possibility of studying personality on the basis of cognitive constructions (Rosenberg, 1976; Rosenberg & Sedlak, 1972; Wiggins & Blackburn, 1976), there has been little effort devoted to the study of relationships between what we are like and what we believe.

An approach more along the lines of classical trait theories is that of Leary (Leary, 1957). He posits that the major dimensions of personality traits are Love-hate and Dominance-Submission, and that within this two dimensional framework there exist eight important personality descriptors. In addition, Leary provides for varying intensities of each trait within this two-dimensional system; the more of a trait a person possesses, the more intense. A synthesis of Leary's and Kelly's theories leads to the prediction that if our beliefs about significant other people are

related to what we are like, then the same major dimensions which describe our traits should describe our beliefs about others, namely, Love vs. Hate and Dominance vs. Submission.

The major hypothesis of the present study was that our beliefs about the ways in which we interact and communicate with significant other people would be related to the beliefs we have about ourselves. In particular, people should pay attention to those aspects of their interactions with others on which the people themselves are extreme (Hirschberg, Jones & Haggerty, Note 3; Hirschberg, Note 4). Thus, a person who pays attention to dominance (as compared to friendliness) in his relationships with others should himself be either very dominant or very submissive. This individual difference hypothesis is that we attend to those aspects of our relationships with others which correspond to prominent features in our own personality. This phenomenon may be due, in part, to our general concern about personality characteristics on which we are deviant (or think we are deviant) (McGuire & Padawer-Singer, 1976). A subsidiary hypothesis deriving from Leary is that two important dimensions underlying our beliefs about our relationships with others are affiliation and dominance.

The purpose of the present study was to test the notion that we pay attention to those aspects of our interactions with others on which we are extreme. In order to perform this test, there must exist a common set of perceptual

dimensions with which to work. Previous studies in the area of interpersonal relations and communication (Wish, 1975; Wish, Deutsch, & Kaplan, 1976) have determined those dimensions which underly people's perceptions of their interactions with others. Since those dimensions have appropriate personality counterparts, a test of the hypothesis was made by measuring the hypothesized relevant personality traits and then calculating the relationship between traits and perceptual dimensions.

METHOD

Subjects. One hundred fifty four male and female subjects, primarily of college age, were recruited through an ad appearing in the Columbia University newspaper. The subjects were paid volunteers. Subjects were run by a male experimenter in groups of about 25 each.

Test Materials. Subjects were administered the following questionnaires:*

(a) Own Communication Ratings. For this section subjects first wrote down the names of eight significant other people. (Five of these referred to current relationships: a romantic partner, same sex friend, college advisor, co-worker, disliked person; three referred to relationsnips during the subjects' teenage years: father,

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* These questionnaires were administered during the second session of a two part study on communication.

mother, and younger sibling). Each subject rated the way in which he typically communicated and interacted with each significant other person on eleven 9-point bipolar adjective scales (intense-superficial, formal-informal, dominant-submissive, friendly-hostile, gloomy-cheerful, competitive-cooperative, relaxed-tense, emotional-unemotional, active-passive, rational-irrational, and frank & open-reserved & cautious). The significant other people and the adjective scales were chosen to span the multidimensional space obtained in other studies of interpersonal relations and communication (Wish, 1975; Wish, Deutsch, & Kaplan, 1976).

(b) Other Communication Ratings. Ratings on the same 11 scales were made for the way in which the significant other persons typically interacted and communicated with the subject.

(c) A variety of personality and background questionnaires were administered including: (1) A shortened version of the Personality Research Form (Jackson, 1965) scored for the traits (or characteristics) of affiliation, aggression, dominance, autonomy, abasement, and understanding; (2) the Leary Interpersonal Check List (LaForge & Suczek, 1955) scored for all combinations of the major dimensions: Dominance, Dominance and Hate, Hate, Hate and Submission, Submission, Submission and Love, Love, and Love and Dominance; these eight traits were subdivided by scoring them for items of high intensity (low endorsement frequency

and judged to be socially undesirable) and low intensity (high endorsement frequency and judged to be socially desirable) yielding 16 scores; (3) Self-ratings on 25 bipolar adjective scales. These 25 scales were later combined on the basis of a Johnson (1967) hierarchical cluster program to form six clusters. Each subject received the average self-rating for the traits in each cluster. The six clusters were: sociability (friendly, sociable, cheerful, likeable, warm), rationality (rational, intellectual, conscientious), intensity (intense, emotional), security (secure, relaxed), neuroticism (neurotic, uncooperative), and dominance (bold, dominant, assertive); (4) a biographical inventory which included items of background (socioeconomic status, education, etc.), as well as questions regarding present interests and attitudes.

ANALYSIS

The present study employed a multidimensional scaling model and method for the analysis of individual differences, called INDSCAL (Carroll & Chang, 1970). This method uncovers the dimensions underlying the perception of a set of stimuli based on measures of similarity between pairs of stimuli. Weights are also determined for subjects on each dimension, indicating how important that dimension is for the individual relative to the other dimensions. A high weight on a dimension means the subject pays more attention

to it, in the sense of making greater discriminations among the stimuli on that dimension. Note that each stimulus in the present study refers to a dyad involving the subject and one significant other person. Thus, a pair of stimuli consists of the subject with person j and the subject with person k. The distance between each pair of stimuli was obtained for a single individual by computing the difference between their ratings on each bipolar scale and then summing the squared differences across all scales (Wish & Carroll, 1974). For each subject, the difference (distance) between each stimulus pair was calculated by:

$$d_{jk} = \sqrt{\sum_{i=1}^{11} (x_{ij}-x_{ik})^2}$$

where, d_{jk} is the distance between stimulus j and stimulus k, and x_{ij} is the rating of stimulus j on scale i.

A distance matrix was computed for each subject for both the Own communication ratings (how you communicate to others) and the Other communication ratings (how others communicate to you). Similarly, distance matrices were separately computed for each bipolar scale by summing over all subjects on the particular scale, rather than over all scales for the particular subject.

It should be noted that the number of stimuli and the number of scales used would ordinarily be insufficient for determining the multidimensional structure. However, in the present case, the dimensions underlying interpersonal

comunication were known from the results of previous studies. Thus, the sampling only had to be extensive enough to represent the original multidimensional space.

Separate INDSCAL analyses were performed on the distances among significant other persons for the Own and for the Other communication ratings. For both sets of data, two-, three-, four-, five-, and six-dimensional solutions were obtained. In both cases, three dimensions were considered most appropriate in accounting for the variance of the original ratings. The subject weights for each of the three dimensions in the Own and Other communication analyses were obtained and were correlated with all of the personality and biographical variables.

RESULTS

Table 1 presents the weights of the bipolar scales on the three INDSCAL dimensions for the Own communication and Other communication data. The higher the dimension weight for a bipolar scale, the more relevant is the associated attribute to the conceptualization of that dimension.

Insert Table 1 about here

The dimensions from the two data sets were extremely similar and were labeled: Dimension I: Friendly vs Hostile; Dimension II: Emotional & Intense vs Unemotional & Superficial;

and Dimension III: Dominant vs Submissive. As predicted, two of the dimensions coincided with those proposed by Leary (love-hate and dominance-submission). These three dimensions matched those obtained by Wish (Wish, 1975; Wish, Deutsch, & Kaplan, 1976) and others (Benjamin, 1974; Foa, 1961; Lorr & McNair, 1963; Schutz, 1958; Triandis, Vassiliou, & Nassiakou, 1968) in studies of the dimensionality of interpersonal interaction.

Tables 2 and 3 present the correlations of the subject weights on each of the INDSCAL dimensions with the personality and biographical variables. Although the correlations are not high, those in the table are all significant at the .05 level or beyond.

Insert Table 2 about here

For the Own communication data (how you communicate to others), subjects who weighted the friendly vs hostile dimension were themselves higher on affiliation from the Personality Research Form, rated themselves as more informal, cheerful, and warm, scored higher on the self rating cluster of sociability, were politically further to the left, and were stronger supporters of women's liberation.*

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*In all cases, positions on the various personality traits are relative to subjects who had lower weights on the given dimension. For example, subjects with high weights on the friendly dimension were more affiliative than those who did not have high weights. The comparison group is obvious in each instance and is therefore omitted in order to avoid redundancy.

Subjects who weighted the emotional & intense dimension scored lower on the Interpersonal Check List variables of submission (high intensity items) and submission-hate (high intensity items); they were more politically conservative and tended to be from higher socioeconomic groups. Subjects who weighted the dominant vs submissive dimension received higher scores on the Interpersonal Check List variables of love, and submission-love; they received higher scores on the intense dominant items, they were more likely to be males, and they gave less support to equal rights for women. These subjects also described themselves as attention seeking.

Insert Table 3 about here

For the Other communication data (how others communicate to you), subjects who weighted the friendly vs hostile dimension received higher scores on the interpersonal Check List variables of love, and submission-love; and higher scores on the low intensity items connoting dominance. They scored lower on autonomy from the Personality Research Form, and described themselves as more cooperative, intense, friendly, cheerful, and relaxed. They received higher scores on the self-report clusters of security, rationality, and sociability, and scored lower on neuroticism. Subjects who weighted the emotional & intense dimension received lower scores on both the love and the

high intensity items of the submission-love variables. Subjects who weighted the dominant vs. submissive dimension scored lower on the Personality Research Form variable of aggression, and higher on autonomy (independence). On the Interpersonal Check List they scored higher on the low intensity items from the dominance-hate variable; they also described themselves as bolder.

A computer program called PROFIT (Carroll, note 5) was used to perform multiple regressions between personality scores and INDSCAL weights for all subjects (predictors). Tables 4 and 5 present the PROFIT analyses for the Own and Other communication data, respectively. The variables were chosen to represent the main personality tests (Interpersonal Check List, Personality Research Form, self-report clusters). In addition, sex and two political items were included.

Insert Table 4 and 5 about here

The first three columns of Tables 4 and 5 give the cosines of the angles between each personality variable vector and the three INDSCAL dimensions. PROFIT determines, for each variable, a vector in the multidimensional space defined by the INDSCAL solution. The subjects are located in the three-dimensional space according to their INDSCAL weights. The personality vector is placed in that space so that the projections of the subjects on it correspond op-

timally (in the least squares sense) to the ordering of the subjects on the personality variable. The higher (in absolute value) the cosine, the closer is the correspondence between that personality vector and the associated dimension.

For the Own communication data (Table 4), the personality vectors which are closest to the friendly vs. hostile dimension are: the ICL variable of hate (negatively), PRF abasement, affiliation, and aggression (negatively), and self report variables of neuroticism (negatively) and sociability. The second dimension, emotional & intense, is marked by the personality variables of submission from the ICL (negatively), and self report clusters of dominance and intensity. The third dimension is marked by the ICL variables of dominance, dominance-hate, submission-love, love, and dominance-love, the PRF scales of autonomy (negatively) and dominance, sex (male = positive), and opposition to equal rights .

For the Other communication data (Table 5), the personality vectors corresponding to the friendly dimension are: ICL dominance, ICL hate (negative), ICL submission-hate (negative), ICL submission-love, PRF abasement, PRF affiliation, and self report variables of neuroticism (negative), sociability, and intensity. Political liberalism also marks this dimension. The personality vectors corresponding to the second dimension, emotional & intense,

are: ICL submission (negative), PRF dominance, and the political ideology item of equal rights (negative). The vectors corresponding to the third dimension, dominance, are: ICL dominance-hate, PRF aggression (negatively) and autonomy, and sex (males are positive).

The fact that the personality vectors tend to mark (i.e., are close to) a single INDSCAL dimension suggests that the zero order correlations between the dimensions and the personality variables provide an adequate representation of the relationships between each dimension and each personality variable. It also suggests that, in most cases, very little information is added by employing more than one dimension for predicting a personality variable from subject weights on the dimensions.

DISCUSSION

The hypothesis that we tend to pay attention to those aspects of our communication with others which correspond to our own more extreme personality characteristics was supported. Putting together the zero-order correlations and the PROFIT analyses (Tables 2, 3, 4, and 5), the results do provide some evidence for this hypothesis. In general, subjects who paid attention to the friendly vs hostile dimension were themselves friendlier and more affiliative than subjects who did not attend to this dimension, Subjects who paid attention to the dominant vs submissive dimension

tended to be more dominant than those who did not. Although no specific prediction was made about the emotional & intense dimension, subjects who weighted that dimension tended to be dominant. (Other studies suggest that dominant behavior is related to intensity in interpersonal communication (Wish, 1976).)

It is also worth noting that the dimensions of beliefs about interpersonal communication were correlated with those personality variables with which they were predicted to correlate and not with variables which were not predicted to relate to the dimensions. Thus weights on the friendly vs. hostile dimension were correlated with measures of affiliation rather than rationality, understanding, or dominance.

The individual differences hypothesis predicts that a given dimension will be salient to these individuals who are extreme on the associated personality trait. There was no specific prediction as to which side of a given bipolar personality scale a subject might be. Subjects who weighted friendly-hostile (i.e., subjects who discriminated stimuli along that dimension) could have been extremely friendly themselves or extremely hostile or both. Of the six dimensions obtained, only one of them, the dominance dimension from the Own Communication data, resulted in significant correlations at both ends of the corresponding personality measures. Thus, the majority of the findings are incompatible with the notion that a given dimension will be salient to people at <u>both</u> extremes.

Although all measures included in the present study were based on verbal self-report, there is no reason to suppose that a simple response bias or demand characteristic hypothesis would have predicted that subjects who discriminate stimuli along a given dimension are themselves extreme on that dimension. It is encouraging that different personality tests yielded similar results, demonstrating that the correlations were not spurious.

This study has also confirmed the notion that beliefs about interpersonal communication can be described by the Leary dimensions of love-hate, and dominance-submission. This is not to suggest that other dimensions might not emerge in studies of the structure of communication, but it would be anticipated that the Leary dimensions would be among the most important.

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Att.
References
Reference Notes
Tables 1-5

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TABLE 1

DIMENSION WEIGHTS FOR BIPOLAR SCALES FROM INDSCAL ANALYSES OF OWN AND OTHER COMMUNICATION

	OWN COMMUNICATION DIMENSIONS			OTHER COMMUNICATION DIMENSIONS		
	Friendly vs. Hostile	Emotional & Intense vs. Unemotional & Superficial	Dominant vs. Submissive	Friendly vs. Hostile	Emotional & Intense vs. Unemotional & Superficial	Dominant vs. Submissive
Friendly - Hostile	.82**	.26	.19	.82**	.31	.17
Relaxed - Tense	.77**	.35	.17	.76**	.31	.27
Gloomy - Cheerful	.75**	.32	.25	.63*	.37	.25
Frank & Open - Reserved & Cautious	.75**	.41	.20	.66*	.43	.24
Emotional - Unemotional	.30	.78**	.19	.24	.80**	.20
Intense - Superficial	.41	.69*	.23	.36	.74**	.18
Dominant - Submissive	.18	.33	.78**	.28	.28	.72**
Competitive - Cooperative	.46	.23	.53	.69*	.22	.33
Formal - Informal	.59	.54	.21	.39	.59	.42
Active - Passive	.48	.46	.45	.42	.36	.37
Rational - Irrational	.38	.50	.41	.55	.36	.32
Variance Accounted For By INDSCAL Solution When Data is First Averaged Over Subjects	.35	.23	.15	.33	.23	.13
Variance Accounted for When Data is not Averaged over Subjects	.22	.18	.07	.20	.16	.08

*Weight between .60 and .70. **Weight greater than .70.

TABLE 2

SIGNIFICANT ZERO ORDER CORRELATIONS BETWEEN PERSONALITY VARIABLES AND INDSCAL SUBJECT WEIGHTS FOR "OWN COMMUNICATION"

	OWN COMMUNICATION DIMENSIONS		
	Friendly vs. Hostile	Emotional & Intense vs. Unemotional & Superficial	Dominant vs. Submissive
Interpersonal Check List			
Submission - Love			.17
Love			.17
Dominance (high intensity)			.19
Submission - Hate (high intensity)		-.18	
Submission (high intensity)		-.16	
Submission - Love (high intensity)			.19
Personality Research Form			
Affiliation	.20		
Self-Ratings on Bipolar Scales			
Informal	.16		
Cheerful	.22		
Non-attention Seeking			-.19
Warm	.19		
Cluster of Bipolar Scale Self-Ratings			
Sociability	.19		
Biographical Information*			
Female - Male			.19
Political Position: Left-Right	-.17	.17	
Equal Rights: Oppose-Support			-.24
Women's Liberation: Oppose-Support	.17		
Socioeconomic Status: Lower-Upper		.22	

*With the exception of the female-male question, subjects indicated their responses for the items by circling a number on a scale from 1 to 9.

TABLE 3

SIGNIFICANT ZERO ORDER CORRELATIONS BETWEEN PERSONALITY VARIABLES AND INDSCAL SUBJECT WEIGHTS FOR "OTHER COMMUNICATION"

	OTHER COMMUNICATION DIMENSIONS		
	Friendly vs. Hostile	Emotional & Intense vs. Unemotional & Superficial	Dominant vs. Submissive
Interpersonal Check List			
Submission - Love	.16		
Love	.18	-.21	
Dominance (low intensity)	.19		
Dominance - Hate (low intensity)			.16
Submission - Love (high intensity)		-.19	
Love (high intensity)	-.17		
Love Equation*	.22		
Personality Research Form			
Aggression			-.16
Autonomy	-.22		.25
Self-Ratings on Bipolar Scales			
Cooperative	.21		
Intense	.17		
Friendly	.22		
Cheerful	.19		
Relaxed	.18		
Bold			.18
Clusters of Bipolar Scale Self-Ratings			
Neuroticism	-.20		
Security	.17		
Rationality	.17		
Sociability	.18		

*Computed by summing the scores for Love and Dominance-Love and subtracting the scores for Hate and Submission-Hate.

TABLE 4

COSINES AND MULTIPLE CORRELATIONS OF THE PERSONALITY VARIABLE VECTORS IN THREE-DIMENSIONAL SPACE FOR OWN COMMUNICATION

	DIRECTION COSINES			
	Friendly vs. Hostile	Emotional & Intense vs. Unemotional & Superficial	Dominant vs. Submissive	Multiple Correlations
Interpersonal Check List				
Dominance	.20	.23	.95**	.13
Dominance-Hate	.05	-.24	.97**	.08
Hate	-.94**	.34	.10	.10
Submission-Hate	-.57	-.61	-.55	.25
Submission	-.58	-.74	.33	.20
Submission-Love	-.01	-.10	.99**	.17
Love	.45	.18	.88**	.23
Dominance-Love	.38	.04	.92**	.17
Personality Research Form				
Abasement	.97**	-.05	-.25	.14
Affiliation	.85*	.35	.40	.23
Aggression	-.99**	.04	.09	.14
Autonomy	-.37	-.47	-.80*	.11
Dominance	.25	.58	.78*	.21
Clusters of Bipolar Scale Self Ratings				
Neuroticism	-.74	-.60	-.31	.23
Dominance	.30	.71	.64	.17
Sociability	.77*	.50	.39	.27
Intensity	.52	.69	.50	.04
Biographical Information				
Female-Male	-.40	-.34	.85*	.22
Political Position: Left-Right	-.38	.61	.70	.22
Equal Rights: Oppose-Support	-.07	-.12	-.99**	.25

*Cosine between .75 and .85. **Cosine greater than or equal to .85.

TABLE 5

COSINES AND MULTIPLE CORRELATIONS OF THE PERSONALITY VARIABLE VECTORS IN THREE-DIMENSIONAL SPACE FOR OTHER COMMUNICATION

	DIRECTION COSINES			
	Friendly vs. Hostile	Emotional & Intense vs. Unemotional & Superficial	Dominant vs. Submissive	Multiple Correlations
Interpersonal Check List				
Dominance	.93**	-.30	.23	.14
Dominance-Hate	.04	.02	.99**	.13
Hate	-.92**	.38	-.06	.10
Submission-Hate	-.84*	-.45	-.32	.18
Submission	-.44	-.84*	.33	.12
Submission-Love	.86**	-.50	.11	.18
Love	.55	-.57	.61	.27
Dominance-Love	.77*	-.23	.60	.16
Personality Research Form				
Abasement	.94**	-.04	.33	.07
Affiliation	.99**	-.15	.00	.16
Aggression	-.43	.15	-.89**	.23
Autonomy	-.43	.13	.89**	.29
Dominance	.69	.71	.14	.12
Clusters of Bipolar Scale Self Ratings				
Neuroticism	-.81*	-.53	-.24	.26
Dominance	.70	.21	.68	.14
Sociability	.80*	.09	.59	.21
Intensity	.96**	-.10	.25	.15
Biographical Information				
Female-Male	-.43	.05	.90**	.12
Political Position: Left-Right	-.97**	.20	-.17	.10
Equal Rights: Oppose-Support	-.01	-.83*	-.56	.06

*Cosine between .75 and .85. **Cosine greater than or equal to .85.